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# Language processing skills of 5-6 years old turkish children attending monolingual and bilingual preschool education

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## Abstract

The aim of this research is to compare language processing skills of 5-6 years old Turkish children. The research was carried out with 90 children in the age group of 5;0 – 5;12 who attend monolingual and bilingual preschool education. Language Processing Scale and Parent Questionnaire Form. Determining child's sex, father's education, mother's education, birth sequence, father and mother speaking another language besides Turkish, number of siblings and extent of preschool education of the children were correlated with the sub dimensions of the Language Processing Scale. In general, results are in favor of monolingual children in the performance of language processing skills

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Keywords: Preschool education; bilingual education; language processing skills

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## 1. Introduction

Language is a tool which enables human beings to express themselves, to transfer concepts and symbols incorporated in the culture which are created by the people and thus enabling cultural interaction in social life. Language is both a systematic communication tool comprising of sounds and also a reasoning tool (Demirel, 1999). According to Piaget, there is a direct correlation between thought development and concept development which is the foundation of language.

Since language acquisition and development of children take place in multivaried environments, it is of scientific interest to study the “normal” developmental stages of children who are subject to various educational environments at an early age in the course of language development.

Though bilingualism is quite common in the world population, most of the studies on language acquisition and (development) are conducted with monolinguals (Slobin, 1985). Research related to bilingualism and bilingual education concentrate on the effects of second language acquisition on cognitive development, language proficiency, application of the language (Sevinç, 1985; Stern, 1992; Bialystok, 1988, 2001)

**Native Language** is first language which is dominant in an environment and is used most commonly, influentially and at the richest level. It is the language which the child is born into, is used by the mother interacting with the child. is the language in the family, street and everyday life, used in reasoning and transferring thoughts

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**Bilingualism** is being able to use two different languages at the level of his/her native language without any intermingling. (Bloomfield, 1933, see. Demircan,1990 p.21). However, there is no certain agreement on the description of bilingualism, “anyone who begins using a second language (other than his/her native language) in any stage of his/her life is considered to enter into the phase of bilingualism” (Kilimci, 1998, p 109).

Studies conducted with children who are bilingual and monolingual show that children who are bilingual develop more flexible structures in their cognitive developments and are more superior in terms of metacognition in comparison to monolingual children (Ben-Zeev,1977). Therefore, it is considered advantageous that second language acquisition is achieved in early ages (Kilimci, 1998). It is observed that bilingual children use their reasoning skills and those abilities and strategies required for a meaningful communication between individuals in a much more conscious, purposeful and discriminative manner in comparison to the monolingual children. Also, being bilingual accelerates cognitive development and facilitates usage of the language as a tool in reasoning (Galambos & Hakuta,1988)

## 2. Problem

In this study, language processing skills of 5-6 years old Turkish children attending preschool education only in Turkish and bilingually are investigated. The aim of the study is to compare the Turkish language processing skills of children who are in the process of acquisition of their native language with a group of children who are subject to bilingual acquisition in their language development. It is assumed that children who are in the process of acquisition of two languages at the same time would fall behind in their native language (Turkish) processing skills

Research in the area of multilingualism has rapidly gained importance in terms of globalization and interaction in the case of migration. In our country, importance given to the subject of foreign language education and training, concern for curriculum have been increasing every passing day. The urge is to start language learning very early on to enable social, economic and academic interactions as young adults. The question arises as to when is the optimal time to learn another language so that it will not affect negatively the language development. It was thought that the results of this study will present effects of the process of early bilingualism on the native language acquisition. The results will be beneficial for shedding light on the preparation of programs which are appropriate for bilingual education and will help us to understand the process of bilingual acquisition in early years. Also, it will be possible to determine performance deficiencies and identify failures of 5-6 years old children in the process of their native language acquisition in terms of language processing skills.

## 3. Population and Sampling

This research is limited to boys and girls in the age group of 5;(0) – 5; (12) attending preschool education only in Turkish language and bilingually in private and state schools which are located in Istanbul, inspected by the Ministry of National Education. The sampling is consisted of a total number of 90 children in the age group of 5-6 of whom 45 children are receiving education only in Turkish language and 45 children who attend English-Turkish bilingual preschools. Attention was especially paid that all mothers/ fathers of all children within the scope of research spoke Turkish.

### 3.1. Data Collection Tools

Language Processing Scale and Parent Questionnaire Form were used as data collection tools. The Language Processing Scale is consisted of “Denomination, Function Identification, Evocation, Grouping, Similarity, Difference and Feature Identification” sub dimensions, respectively.

To study language developments of 5-7 year old boys and girls attending preschool education institutions and primary school first grade; Language Processing Scale was adapted to Turkish culture by Sevinç&Eskinazi (2004) which was initially developed by Richard and Hanner based on Luria’a “Brain Organization Theory”.

Personal information form consisting of 18 questions was prepared to obtain information related to child’s date of place of birth, sex, birth sequence, number of siblings, education level of mother / father, preschool education attendance period, whether the child spoke English or not before school, if yes number of years, languages that mother/ father know, talent which mothers/ fathers have reported that the child has.

#### 4. Findings

Percentages and frequency distributions show that the students are in the range of 61- 71 month/age. Study was carried out with 49 girls (21 monolingual, 28 bilingual) and 41 boys (22 monolingual, 19 bilingual). 58 of the children are first, 30 of them are second and 2 of them are third child by birth order. 18 of the children have no siblings. 53 of them have one sibling, 19 of them have two siblings. When education levels of the mothers are examined, 2 secondary school, 14 high school, 56 university and 18 postgraduate education levels were reported. When the education levels of fathers were investigated, 4 secondary school, 14 high school, 50 university and 22 postgraduate education levels were reported. 21 children attended preschool education institution for 1 year, 35 children for 2 years and 34 children for 3 years. 19 children received English education, 26 students Turkish education. Period of receiving English education is one year for 9 children, two years for 10 children. 25 of the mothers/ fathers speak another language other than Turkish, 65 of them do not know any other language. The languages known are German (3), French(6), English(4), Italian(1), Portuguese(1), Russian(8), Serbian(1), Kurdish(1).

Number of children who are believed to have a special talent stated by mothers/ fathers is 28. It is stated that 62 children have no special talent. Reported special talents of children are specified as music, painting, mathematics, sport/ gymnastics, chess and literature. Those children whose special talents are specified by their mothers / fathers are mostly bilingual.

Table 1-Is there any difference between 5-6 year old children attending preschool education only in Turkish and bilingually in terms of language processing skills?

|   | Usage of Native Language and Bilingual | n  | x       | ss       | t     | sd | p    |
|---|--|----|---------|----------|-------|----|------|
| Turkish Skills/ Denomination            | Native Language                        | 45 | 44 3000 | 1,6 7872 | 3,533 | 88 | ,001 |
|   | Bilingual                              | 45 | 43 3556 | 1,1 3620 |       |    |      |
| Turkish Skills /Function Identification | Native Language                        | 45 | 45 4000 | 1,3 3618 | 3,840 | 88 | ,000 |
|   | Bilingual                              | 45 | 44 3333 | 1,4 7710 |       |    |      |
| Turkish Skills / Evocation              | Native Language                        | 45 | 43 3000 | 4,3 4323 | ,918  | 87 | ,361 |
|   | Bilingual                              | 44 | 42 1818 | 4,0 3355 |       |    |      |
| Turkish Skills/ Grouping                | Native Language                        | 45 | 14 1778 | 1,2 4843 | 1,178 | 88 | ,242 |
|   | Bilingual                              | 45 | 13 3889 | 1,6 7073 |       |    |      |
| Turkish Skills / Similarity             | Native Language                        | 45 | 26 3111 | 1,6 5221 | 9,188 | 88 | ,000 |
|   | Bilingual                              | 45 | 23 1333 | 2,6 5265 |       |    |      |
| Turkish Skills/ Difference              | Native Language                        | 45 | 26 3778 | 1,6 7215 | 8,896 | 88 | ,000 |
|   | Bilingual                              | 45 | 22 5667 | 2,4 3492 |       |    |      |
| Turkish Skills / Feature                | Native Language                        | 45 | 87 2444 | 3,2 5939 | 2,980 | 88 | ,004 |
|   | Bilingual                              | 45 | 84 5111 | 5,2 1197 |       |    |      |
| Turkish Skills/ Total                   | Native Language                        | 45 | 28 3111 | 7,2 7034 | 5,852 | 88 | ,000 |
|   | Bilingual                              | 45 | 27 7333 | 13 59880 |       |    |      |

\* “Denomination”, “function identification”, “similarity”, “difference”, “feature” and “total” traits of language processing skills of 5-6 years old Turkish children indicate significant differences at the level of .01 according to native language/ bilingual usage. According to arithmetic means, in all traits, those children using their native language had higher points than those children who are bilingual. In the light of data which were obtained here, it is concluded that the children receiving education in their native language are more successful in language processing than those children receiving bilingual education.

\* The result of t- test which was performed for sex variant and of Pearson product moments coefficient performed for age variant indicate no difference in Language processing skills of 5-6 years old boys and girls attending preschool education in Turkish and bilingually;

\* When the variant for education level of the mother is examined, no difference is found in the results of one-way analysis of variance performed in “denomination, function identification, evocation, similarity, difference, feature identification and total test” subtests in language processing skills of 5-6 years old boys and girls attending preschool education in Turkish and bilingually;

Table 2-Results of single-factor variance analysis regarding variance in the Processing Skills / “Grouping” subscale of children at the ages of 5-6 continuing preschool education in Turkish and two languages according to the mother’s educational level

|                | Sum of Squares | sd | Average Squares | F     | p    |
|----------------|----------------|----|-----------------|-------|------|
| Between Groups | 11.62          | 3  | 5.731           | 4,556 | .013 |
| Within Groups  | 109.438        | 87 | 1.258           |       |      |
| Total          | 120.900        | 90 |                 |       |      |

As seen in Chart 2, Turkish processing skills of children at the ages of 5-6 are found to have a significant difference in Grouping subscale at the level of 0.5 according to the mother’s educational level.

Table 2.1.Results of scheffe test regarding variance in the Processing Skills of children at the ages of 5-6 / “Grouping” subscale according to the mother’s educational level

| Mother’s Educational Level | Mother’s Educational Level | Difference (I-J)      | P   |
|----------------------------|----------------------------|-----------------------|-----|
| Secondary / High School    | Undergraduate              | -.1875                | .84 |
|                            | Graduate                   | .7292                 | .17 |
| Undergraduate              | High School                | .1875                 | .84 |
|                            | Graduate                   | .9167 <sup>(*)</sup>  | .01 |
| Graduate                   | Secondary / High School    | -.7292                | .17 |
|                            | Undergraduate              | -.9167 <sup>(*)</sup> | .01 |

Turkish language processing skills of boys and girls at the ages of 5-6 receiving education only in Turkish and in two languages at the level of preschool education indicate a significant difference at the level of .05 according to mother’s educational level in “Grouping” subscale. It is understood that, for the “Grouping” subscale of Turkish language processing skills, there is a significant difference at the level of .05 between those with undergraduate mothers ( $x=14,25$ ) and graduate mothers ( $x=13,33$ ) in favour of undergraduates.

When the father’s educational level is examined in Turkish language processing skills of children at the ages of 5-6 receiving education only in Turkish and in two languages at the level of preschool education, no difference was observed in the results of single-factor variance analysis performed in the sub-tests of “denomination, indicating the function, connotation, grouping, similarity, difference, characterizing and total test”.

In order to test whether there is a relation between the extent of continuing preschool education and language processing skills for children at the ages of 5-6 receiving education in Turkish and two languages, positive and significant relationships were observed at the level of .01 between extent of continuing preschool education and the sub-dimensions “denomination”, “similarity” and “difference”, and at the level of .05 with “indicating function” according to the results of pearson multiplication moments correlation coefficient between sub-test scores and total score of the extent of continuing preschool education and language processing skills. According to this result, the longer the periods of continuing preschool education, the more positive on the sub-skills: denomination, similarity, difference and indicating function out of language processing skills.

In order to test whether there is a relationship between the number of siblings among children at the ages of 5-6 and the development of the sub-skills pearson multiplication moments correlation coefficient were estimated. A positive and significant relationship was found at the level of .01 between the number of siblings and the sub-skill “indicating function”. Accordingly, the higher the number of siblings is, the more positive the development of the sub-skill “indicating function” is.

According to the results of pearson multiplication moments correlation coefficient regarding the relationship between language processing skills and the number of siblings, no relationship was found between single child, the first and the second child and sub-scales of language processing skills, and the total score.

When examined whether there is a difference in terms of special talents of children at the ages of 5-6 as mentioned by their mother / father and language processing skills a t-test was performed between scores of each sub-scale of language processing scale and the total test score, and no difference was observed between having or not having a special talent as mentioned by their parents.

When examined whether foreign language knowledge of mothers/fathers have any effect on language processing skills of children the results indicated that parents’ speaking a language other than Turkish at home created a significant difference at the level of .05 at the sub-dimensions “denomination” and “indicating function” of Turkish language processing skills and at the level of .01 in sub-dimensions “similarity”, “difference” and “total” score.

According to arithmetic averages, speaking in a language other than Turkish at home received a lower score in all of sub-dimensions of Turkish language Processing Skills.

## 5. Discussion

This study investigated whether there is any difference between language processing skills among children at the ages of 5-6 continuing preschool education in Turkish and in two languages. The results indicate that the arithmetic averages obtained indicated that those using only one language in all dimensions received higher scores compared to those using two languages. Under the light of data obtained here, it was concluded that monolingual children receiving education in Turkish only were more successful in processing Turkish language compared to those acquiring two languages.

Studies carried out by Beckett (1993) suggested that the second language must be introduced after the acquisition of the mother tongue so that two languages or even the third and fourth languages can be more efficiently learned where children can competently differentiate between the languages.

When the relation between language processing skills and sexes of children was examined it was found that the sex variable had no effect upon language processing skills of the children. Although no significant difference was observed when the arithmetic averages and standard deviances obtained from boys and girls were examined, girls were observed to have higher scores in language processing skills compared to boys.

According to McCarthy, there is no sex difference in the early years in the language development. However, in the course of language development girls role-modell after their mother while boys role-model after their father. Since generally the father is away from home for longer periods due to his job, boys have less opportunity to interact with their fathers verbally. (Yavuzer, 1998). Therefore, sentence formulations of boys are shorter and include more errors, and their vocabulary is more limited at an early age.

Specific studies performed in relation to language development indicated that girls are more developed than boys in terms of the amount of speech, the variety of words used in speech, and accuracy of the sentence in terms of grammar due to longer periods spent with the mother and sharing activities.

Educational levels of families also have an impact on quality and quantity of speech produced by the child. According to a study by Farran and Ramey (1980), mothers of medium level of education and income group have gradually more time to take care of their babies at the age of 6 to 20 months, while mothers of lower level of education and income group have less. Mothers at the first group play with their children two times more than the mothers in the second group. As language development depends on the frequency and quality of mutual communication interactions between the child and his/her environment, language development is slow in children of mothers in the second group (Savaş, 2006)

According to Gordon (1993), the domain of influence of parents on the child is very broad. In a way, parents are both the closest persons to their children in fulfillment of their needs between the ages of 0-6 and at the same time their first teachers. Since the early foundations of human personality are laid between the ages 0-6, the role of mother and father are better understood in determining the educational influence. Mothers and fathers shape the identity, status and values to be gradually assimilated by the child (Çelenk, 2005).

When the relation of language processing skills and school attendance periods of children at the ages of 5-6 with monolingual and bilingual children were examined, it was found that children with extended period of preschool attendance have higher language processing skills (Machado, 1990)

Yıldız, Şen & Çoşkun have studied the metalinguistic skills of children at the ages of 5-6 who attend or do not attend pre-school ; they found that the metalinguistic skill averages of children attending a pre-school institution was higher than the metalinguistic skill averages of children not attending pre-school

( Çelenk,2005)

## 6. Suggestions

In the light of the results obtained from this study we have certain suggestions for future research..

The study can be repeated with a broader sample size; thus more detailed findings may be obtained.

Research conducted with monolingual children of working and non-working mothers may shed light on the development of language processing skills in terms of mother and child interaction and their effects on language developmental stages.

A research to be carried out with children at the ages of 10-12 receiving bilingual education may reveal results which may be a better indication of language processing skills for bilinguals.

A research comparing language developments of single child and children having more than one sibling may be studied in terms of role-model taking, peer relations and social interaction theories.

Low and middle socio-economic class families may be randomly selected to study the relation of parents' education level and child's language processing skills.

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